



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,836	09/23/2005	Naoto Yumiki	10873.1717USWO	6053

53148 7590 02/21/2008
HAMRE, SCHUMANN, MUELLER & LARSON P.C.
P.O. BOX 2902-0902
MINNEAPOLIS, MN 55402

EXAMINER

STRIEB, MICHAEL A

ART UNIT	PAPER NUMBER
----------	--------------

2862

MAIL DATE	DELIVERY MODE
-----------	---------------

02/21/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/550,836	Applicant(s) YUMIKI ET AL.	
	Examiner MICHAEL A. STRIEB	Art Unit 2862	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5 and 7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3,5 and 7 is/are allowed.
- 6) ☐ Claim(s) 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/23/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipated by Nomura et al (US 5,765,048).

Regarding **claim 2**, Nomura et al disclose a collapsible lens barrel whose lens group is retracted when an image is not captured, the collapsible lens barrel comprising a driving frame for driving the lens group, comprising a cam pin and a demating prevention pin (column 12, lines 3-10; column 15, lines 54-67; column 16, lines 1-19; Figures 1, 3-6). As the adjective "demating" carries no structure with it, it carries no weight to the limitation. The pin structure (18 and 19a) in the reference serve a dual function as both cam pins and demating prevention pins. As there is a plurality of said pin structures, there exists at least one of both a cam pin and a demating prevention pin.

Further, Nomura et al disclose a cam frame comprising a cam groove and a demating prevention groove that mate with the cam pin and the demating prevention pin, respectively (column 12, lines 7-10; column 15, lines 54-58). The same reasoning

that applies to the distinction between cam pins and demating prevention pins above applies to cam grooves and demating prevention grooves as well.

Further, Nomura et al disclose a first protrusion on at least one side in an optical axis direction of a portion of the demating prevention groove with which the demating prevention pin mates when the driving frame is retracted (Figure 3, element 17e); wherein, in a state where the lens group has been retracted, the demating prevention pin contacts the protrusion to prevent the cam pin from demating from the cam groove (column 15, lines 66-67; column 16, lines 1-9).

Allowable Subject Matter

3. Claims 1, 3, 5, and 7 are allowed.

Regarding **claims 1 and 3**, Nomura disclose a collapsible lens barrel whose lens group is retracted when an image is not captured, the collapsible lens barrel comprising a driving frame for driving the lens group, comprising a cam pin and a demating prevention pin (column 12, lines 3-10; column 15, lines 54-67; column 16, lines 1-19; Figures 1, 3-6). As the adjective "demating" carries no structure with it, it carries no weight to the limitation. The pin structure (18 and 19a) in the reference serve a dual function as both cam pins and demating prevention pins. As there is a plurality of said pin structures, there exists at least one of both a cam pin and a demating prevention pin.

Further, Nomura et al disclose a cam frame comprising a cam groove and a demating prevention groove that mate with the cam pin and the demating prevention pin, respectively (column 12, lines 7-10; column 15, lines 54-58). The same reasoning that applies to the distinction between cam pins and demating prevention pins above applies to cam grooves and demating prevention grooves as well.

Further, Nomura et al disclose a first protrusion and a second protrusion on at least one side in an optical axis direction of a portion of the demating prevention groove with which the demating prevention pin mates (Figure 3, element 17e).

However, Nomura et al does not disclose that the demating prevention pin contacts the protrusion when the driving frame is advanced. Rather, Nomura et al allows for the demating prevention pin to contact the protrusion when the driving frame is retracted.

Regarding **claim 5 and 7**, a collapsible lens barrel whose lens group is retracted when an image is not captured, the collapsible lens barrel comprising a driving frame for driving the lens group, comprising a cam pin (column 12, lines 3-10; column 15, lines 54-67; column 16, lines 1-19; Figures 1, 3-6). Further, Nomura et al disclose a cam frame comprising a cam groove and that mates with the cam pin (column 12, lines 7-10; column 15, lines 54-58). .

Further, Nomura et al disclose a first and second protrusion with which the cam pin mates when the driving frame is retracted (Figure 3, element 17e); wherein, in a state where the lens group has been retracted, the cam pin contacts the protrusion to

Art Unit: 2862

prevent the cam pin from demating from the cam groove (column 15, lines 66-67; column 16, lines 1-9).

However, Nomura et al do not disclose that the protrusion is provided on at least an object side in an optical axis direction of a portion of the cam groove. Rather, Nomura et al disclose that the protrusion is provided on at least an image sensor side in an optical axis direction of a portion of the cam groove.

Response to Arguments

4. Applicant's arguments filed 12/31/2007 have been fully considered but they are not persuasive. Applicant argues that Nomura et al merely provide a bumper surface (17m) which does not correspond to the first protrusion of claims 1-3. However, the bumper surface (17m) is a part of retaining flange (17e), which is a protrusion on one side of the demating prevention groove. The retaining flange (17e) serves the purpose of preventing the cam pins from demating from the cam grooves when the driving frame is retracted.

Applicant's arguments concerning claims 5 and 7 are persuasive, in that Nomura et al does not disclose that the protrusion is on the object side in an optical axis direction of a portion of the cam groove.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Takeshita et al (US 6,606,206 B2) "Impact absorbent shifting device"

Kobayashi (US 6,714,359 B2) "Lens barrel and cam ring"

6. Any response to this office action should be faxed to (571) 273-8300 or mailed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand - delivered responses should be brought to:

Customer Service Window
Randolph Building
401 Dulany Street

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL A. STRIEB whose telephone number is (571)270-3528. The examiner can normally be reached on Monday-Friday 8am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on (571) 272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2862

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William B. Perkey/
for Patrick Assouad, SPE of Art Unit 2862

MAS